

University student and teaching staff perceptions of accessibility and inclusion

Percepción del alumnado y profesorado universitario sobre la accesibilidad y la inclusión

Percepção dos estudantes e docentes universitários sobre a acessibilidade e a inclusão

大学教师及学生对大学可及性和融合度的看法

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Abstract

Universities, in compliance with current legislation, develop policies to favour inclusion. This implies significant effort in order to overcome barriers related with study plans, teaching methods and assessment, accessibility to both spaces and infrastructures, and technological supports. The main objective of the present study is to examine the perceptions of a group of students and teachers in order to obtain a general overview of accessibility at university. Specifically, the study strives to determine student and teacher evaluations of accessibility at their university, whilst also examining whether perceptions differ between both groups and as a function of knowledge field. Information was collected from both students and teachers using a questionnaire designed *ad hoc* for the study. Obtained outcomes indicate that surveyed students strongly agree that university infrastructures, center facilities, services available at university, furniture, classroom conditions and the online portal should favor the inclusion of individuals with disabilities. Similarly, teaching staff also manifested similar ideas although ratings for all items were slightly lower than those given by students. Likewise, significant differences were observed between the two populations, with students reporting that the furniture favored the inclusion of students with disabilities. Differences were also observed as a function of the knowledge area in which students and teachers worked.

Keywords: accessibility, students, disability, inclusion, teacher

Resumen

Las universidades, en cumplimiento de la legislación vigente, deben desarrollar políticas a favor de la inclusión. Esto supone un esfuerzo importante y la superación de barreras relacionadas con los planes de estudio, las formas de enseñanza y la evaluación, y la accesibilidad tanto en los espacios e infraestructuras, como en lo que se refiere a los apoyos tecnológicos. El objetivo principal de este estudio es obtener una panorámica general de la accesibilidad en la universidad. Concretamente, se pretende determinar la valoración que tienen los estudiantes y el profesorado acerca de la accesibilidad de su institución universitaria, y comprobar si esa valoración es diferente entre ambos colectivos y en función de la rama de conocimiento. La información se recogió en ambas muestras a través de un cuestionario diseñado ad hoc para el estudio. Los resultados obtenidos señalan que el alumnado encuestado está bastante de acuerdo con que las infraestructuras de su universidad, las de su centro, los servicios disponibles en su universidad, el mobiliario, las condiciones de las aulas y el portal web deben favorecer la inclusión de las personas con discapacidad. En el mismo sentido se manifiesta el profesorado, aunque sus valoraciones son ligeramente inferiores a las del alumnado en todos los ítems. Asimismo, se observa que se producen diferencias significativas entre ambas muestras, y a favor del alumnado, al considerar que el mobiliario favorece la inclusión del alumnado con discapacidad y también se observan diferencias en función de la rama de conocimiento a la que pertenecen alumnos/as y profesores/as.

Palabras clave: Accesibilidad, alumnado, discapacidad, inclusión, profesorado.

Received/Recibido	Jan 11, 2022	Approved /Aprobado	May 14, 2022	Published/Publicado	Jun 30, 2022
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Resumo

As universidades, em conformidade com a legislação em vigor, devem desenvolver políticas a favor da inclusão. Isto implica um grande esforço e a superação de barreiras relacionadas com currículos, formas de ensino e avaliação, e acessibilidade tanto em termos de espaço e infraestruturas, como em termos de apoio tecnológico. O principal objetivo deste estudo é obter uma visão geral da acessibilidade na universidade. Especificamente, o objetivo é determinar a avaliação que os estudantes e os docentes têm sobre a acessibilidade da sua instituição universitária, e verificar se esta avaliação difere entre os dois grupos e de acordo com o ramo do conhecimento. A informação foi recolhida em ambas as amostras através de um questionário concebido ad hoc para o estudo. Os resultados obtidos mostram que os estudantes inquiridos estão de acordo que as infraestruturas da sua universidade, as do seu centro, os serviços disponíveis na sua universidade, o mobiliário, as condições das salas de aula e o portal web devem favorecer a inclusão de pessoas com incapacidades. O mesmo se aplica ao pessoal docente, embora as suas classificações sejam ligeiramente inferiores às dos alunos em todos os itens. Também se observa que existem diferenças significativas entre ambas as amostras, e a favor dos estudantes, quando se considera que o mobiliário favorece a inclusão de estudantes com incapacidades, e também se observam diferenças de acordo com o ramo do conhecimento a que pertencem os estudantes e os professores.

Palavras-chave: Acessibilidade, estudantes, incapacidades, inclusão, professores.

摘要

按照现行法律规定, 大学应发展相关政策, 推动教育融合。这意味着大学应该做出非常重要的努力和付出, 克服与教学计划、教学及评估方式、空间及基础设施可及性和科技支持可及性种种方面相关的障碍。该研究的主要目标是对大学可及性有一个大致的整体概况。更具体地说, 该研究试图确定学生及教师对大学可及性的评价, 同时验证该评价是否因群体类型和所处学识分支而呈现出差异。研究采用特殊调研方法制作出问卷, 并收集到两大群体的问卷信息。问卷结果显示学生非常赞同地认为所在大学或学习中心应该在基础设施、服务、家具设施、教室条件及门户网站方面进行优化, 方便残障学生的融入。问卷结果同时也显示教师群体同学生群体持有相同的态度和观点, 但是跟学生的评价相比, 教师在各项目上给出的评分都稍低。因此, 可以看出两大样本群体间存在显著的差异, 同时研究结果也支持学生的观点, 认为学校的家具设施有助于残障学生的融入。研究还表明学生及教师群体在学识分支方面也呈现出一定的差异。

关键词: 可及性、学生、残障、融入、教师

All people have a basic right to equal opportunities in education. Sustainable Development Goal 4 of the 2030 Agenda states that ensuring inclusive, equitable and quality education and promoting lifelong learning opportunities for all should be a priority for member states. Furthermore, the Education 2030 Framework for Action (UN, 2015) identifies inclusion and equity as the cornerstone of a transformative education agenda.

Achieving these goals requires the development and implementation of inclusive policies and programmes which state what to do, how to do it and how to meet the expectations and aspirations of all people. In the words of Gutiérrez-Ortega et al. (2019, p.99), "inclusive organisations constitute a

framework in which three dimensions (culture, policies and practices) are interrelated to ensure that people with some kind of limitation can discover their full capacities, achieve the highest possible levels of autonomy and be part of a community in which they share commitment and identity".

Inclusive education, which considers attention to diversity as equal education for all students, is, therefore, a goal that must be strived for. Ainscow (2001), one of the main promoters and defenders of inclusion, argues that inclusion requires improvement to educational practices for all students and for the school as a whole. Understood in this way, inclusive education can be seen as quality education for all students, seeking equality of

opportunities, expectations and outcomes (Araque and Barrio, 2010).

From this perspective, it is necessary to design strategies that favour personal autonomy and the ability to make decisions so that individuals with disabilities can actively participate and benefit from the resources that society offers (Gallardo-López and García-Lázaro, 2020).

Universities, in compliance with current legislation, must develop policies that favour inclusion. This implies significant effort in order to overcome barriers related with the curricula, teaching methods, assessment, accessibility (both in terms of spaces and infrastructures) and technological support. For Vilches and Garcés (2021), "the environments in which students develop must be accessible, allowing everyone to develop an autonomous way of life" (p.52).

The state of research on this subject reflects the fact that students with disabilities are now accessing university studies in greater numbers than they did a few years ago (Fundación Universia, 2021; Galán-Mañas, 2015; Hernández et al., 2019; Melero et al., 2019). Legislation introduced in this regard has contributed to this reality, in addition to the specific regulations put in place at universities to ensure the rights of individuals with disabilities (García-Cano et al., 2017; Leiva et al., 2019). The design and implementation of intervention programmes (Armas-Cruz, 2019; Sáez-Gallego et al., 2019), support guides for teaching staff and care units introduced within the university community (Leiva et al., 2019) have also had an impact.

Nevertheless, it is still an underrepresented population compared with the total number of students enrolled in Spanish universities (Hernández et al., 2019). It is, therefore, necessary to improve university policies and work on measures that facilitate the personal, social and educational development of students with disabilities enrolled at universities. In this context, some recent studies have focused on analysing the challenges faced by students with disabilities in university settings, whilst

others have focused on attitudes towards disability within the university community. Further, research has examined whether outcomes differ as a function of variables such as gender (Barrera and De Luna, 2019), previous experience with disability (González and Rosés, 2016; Moneo and Anaut, 2016;) and knowledge branch (Barrera and De Luna, 2019; López and Moreno, 2019; Lorenzo et al., 2020). Other studies analysed the most common barriers faced at university, including reliance on visual resources and lack of access to learning support technologies (López-Gavira, et al., 2016; Lledó et al., 2020). Reference has also been made to the architectural or physical aspects of university buildings, which often hinder opportunities for interaction and cooperation between different students or between disabled and non-disabled students.

In this sense, according to Mayol et al. (2019), accessibility at educational institutions, from a physical viewpoint, concerns the architectural elements of access to the facilities. From a different viewpoint, known as the logical viewpoint, accessibility to digital content is discussed, that is, "access to general information about educational institutions appearing on the website of the various organisations, in addition to subject content and training modules once the student is enrolled and studying the modules that make up the respective curricula" (Mayol et al., 2019, p. 3).

Casasola et al. (2016, p. 1) "refer to online accessibility", which they understand as "different environments and products that are accessible and understandable, whilst also being designed to be used by everyone in the most independent and natural way possible, without the need for adjustments".

In the same sense, a recent report by CERMI (2020) highlighted that "accessibility in university institutions encompasses a variety of physical, technological, cognitive and behavioural conditions, as well as the services and processes that must be deployed and characterise the university environment in

fulfilment of its functions" (p.42). According to this report, the term accessibility refers to spaces and infrastructures i.e. classrooms, libraries, cafeterias, laboratories, toilets, gymnasiums and sports halls, offices, auditoriums, student residences, car parks, gardens and common areas. It also includes general equipment (i.e. furniture, utensils, computers, models), the activities and services on offer (i.e. everything related to teaching and evaluation processes, research, management and organisation, information and advice, management and administrative procedures, sports and social activities) and, finally, attitudes of the entire university community (Cermi, 2020).

In light of the above, the present study attempts to answer the following questions: 1) How do students and teaching staff perceive accessibility pertaining to their university? 2) Do assessments vary according to the branch of knowledge to which students and teaching staff belong? 3) Do assessments of university accessibility differ between students and teaching staff?

The main objective of the present study was, therefore, to obtain a general overview of university accessibility based on the assessments given by a group of students and teaching staff. Specifically, the study aim was to gather student and teaching staff evaluation of accessibility at their university. Evaluations were then examined to identify whether they differed between students and teacher staff or as a function of knowledge branch. The following hypotheses were addressed: 1) Differences will exist between students pertaining to different knowledge branches in perceptions of university accessibility. 2) Differences will exist in perceptions of university accessibility between teachers in different knowledge fields. 3) Differences will exist between the perceptions of students and teachers about accessibility at their university.

Method

An exploratory-descriptive and comparative quantitative research approach

was taken in order to gather university student and teaching staff perceptions regarding accessibility at their university. A quantitative methodology was used for this purpose, using a descriptive and cross-sectional design via questionnaire survey (Bisquerra, 2004).

Population and Sample

The study population pertained to undergraduate, Master's and doctoral students and teaching and research staff at the University of Santiago de Compostela. All students and teaching staff present during the 2016-17 academic year were invited to participate in the study.

Data was collected from a final sample of 777 students enrolled on thirteen undergraduate, fourteen Master's and thirteen doctoral courses. Participants were randomly selected from a representative sample covering all knowledge areas. Participation was voluntary. 74.0% were women and 25.7% men (0.4% did not respond). 42.9% were under 20 years of age, 42.6% were between 21 and 25 years of age, 7.1% were between 26 and 30 years of age, and 7.1% were 31 years of age or older (0.3% do not answer). 36.0% were enrolled on a Law and Social Sciences degree, 15.0% on Health Sciences, 9.8% on Arts and Humanities, 5.1% on Engineering and Architecture, and 5.0% on Sciences (29.2% did not answer). Most participants were studying a degree (87.8%), whilst 8.4% were undertaking a doctorate and 3.6% a Master's degree (0.2% did not answer).

As for the teaching and research staff sample, a total of 345 teachers voluntarily agreed to participate in the study. The majority of this group was comprised of women (54.1% compared to 45.9% men), whilst 0.2% were aged 29 or younger, 8.6% were aged 30-39, 33.3% were aged 40-49, 39.8% were aged 50-59 and 17.9% were over 60 (0.2% did not answer). With regards to knowledge branch, the majority (31.9%) belonged to Law and Social Sciences, 14.3% to Arts and Humanities, 12.7% to Engineering and Architecture, 20.1% to Sciences, and 20.8% to

Health Sciences, with 0.2% not providing this information.

Data Collection Instruments and Procedure

The present study forms part of a broader research project that was initiated during the 2016-2017 academic year and completed in 2018-2019, (Ref. 016-CU001). This project was funded through the Vice-Rectorate for Students, Culture and Social Responsibility of the University of Santiago de Compostela, within the framework of the Secretariat of State, Education, Vocational Training and University, and in line with the Classroom Support Programme 'natural supports as a tool for inclusion (CEI15-30.VII)'.

A questionnaire was used to collect data from each of the two groups participating in the present study. This tool was designed ad hoc within the framework of the aforementioned research project. The instrument used to collect information from students consisted of 50 questions, of which 3 were open-ended, 32 were responded to on a Likert scale (1 totally disagree - 4 totally agree) and the remaining 15 were multiple-choice. The teacher tool consisted of 58 items, of which 2 were open-ended, 18 were multiple-choice and 38 were responded to on a Likert scale (1 strongly disagree - 4 strongly agree).

Both questionnaires were structured according to seven dimensions. Specifically, these dimensions focused on identifying data, prior experience with disability, training on inclusion, existing resources for attending to students with disabilities, the availability of university services for attending to students with disabilities, accessibility (which included questions referring to the university's infrastructures, facilities and equipment) and awareness of the university community towards individuals with disabilities. A final open-ended item was also included.

Both questionnaires were subjected to an expert evaluation prior to their application. A pilot study was also carried out with students from the branch of Law and Social Sciences and with teaching staff from the faculties of

Education Sciences and Geography and History. This pilot sample was selected by means of deliberate non-probabilistic sampling.

In order to determine the reliability of both questionnaires, Cronbach's alpha values were calculated. Alpha coefficients of 0.895 and 0.935 were produced for the student and the teaching and research staff questionnaires, respectively, indicating good internal consistency. A Cronbach's Alpha coefficient for the dimension under study, accessibility, was also calculated for the two questionnaires, producing a value of .904 for the student sample and .962 for the teaching staff sample.

Instruments were administered online between April and May 2017. Due to low initial participation, the instrument was administered in-person to a proportion of the student sample. This was done in the classrooms by interviewers who agreed to facilitate data collection.

Detailed instruction for completing the questionnaires was provided. This included relevant details regarding the purpose of the research and the approach to ensuring data confidentiality and anonymity. In the cases in which questionnaires were administered in-person, in classrooms by the research team, participants were verbally provided with this information.

Data analysis

Firstly, descriptive analysis was carried out (mean, median, mode and standard deviation) of the items of the accessibility dimension for the student and teacher sample. Secondly, in order to examine the existence of differences in the assessment of the items comprising this dimension between students and teaching staff, compliance with the assumption of normality was checked via the Kolmogorov-Smirnov test with Lilliefors significance correction (K-S-L). The outcome of this analysis led to the null hypothesis (H₀) of normality being rejected for all six items comprising the accessibility dimension ($p < .001$). Levene's test of homogeneity of variances was also performed.

Outcomes led to rejection of the null hypothesis (H0) of equality of variances for all items of the accessibility dimension ($p < .001$).

On the basis of these confirmatory tests, non-parametric tests were used to check whether statistically significant differences existed between students and teaching staff in the accessibility dimension and according to the different branches of knowledge to which students and teaching staff belonged.

Specifically, the Kruskal Wallis H Test was used to verify the existence of statistically significant differences in the items making up the accessibility dimension within students and teachers as a function of knowledge branch. The Mann-Whitney U test was used to, on the one hand, conduct pairwise comparisons between teachers and students according to knowledge branch and, on the other, examine the existence of statistically significant differences between the accessibility evaluations of students and teachers. All data analyses were conducted using the IBM SPSS Statistics program, version 27.0.

Results

Results are presented below and discussed in an attempt to respond to the study objectives.

Student perceptions of accessibility

Firstly, perusal of student responses to the items that make up the accessibility dimension (table 1) reveals a general tendency towards agreement that university infrastructure, the university building and services it provides to the university community should facilitate accessibility in students with disabilities. Students also reported that the furniture, classroom conditions and web portal should all be accessible.

Highest scores correspond to the items '*classroom conditions must favour accessibility for people with disabilities*' (M=3.84, SD=.416) and '*classroom furniture must be accessible to students with disabilities*' (M=3.83, SD=.432). Students also reported fairly strong agreement with the following items: '*University infrastructure must facilitate accessibility in students with disabilities*' (M=3.80, SD=.488), '*infrastructures belonging to services provided by the university to the university community must facilitate accessibility in students with disabilities*' (M=3.80, SD=.445), '*infrastructure in my university building must facilitate accessibility in students with disabilities*' (M=3.78, SD=.485) and '*the university website must be accessible to people with disabilities*' (M=3.78, SD=.469). The latter two of these items received the lowest ratings.

Table 1. Student perceptions of accessibility

Items	N	M	Md	Mo	SD
University infrastructures must facilitate accessibility in students with disabilities.	777	3.80	4.00	4	.488
Infrastructure of my university building must facilitate accessibility in students with disabilities.	777	3.78	4.00	4	.485
Infrastructures of the services provided within the university community must facilitate accessibility in students with disabilities.	777	3.80	4.00	4	.445
Classroom furniture must be accessible to students with disabilities.	777	3.83	4.00	4	.432
Classroom conditions must favour accessibility for individuals with disabilities.	777	3.84	4.00	4	.416
The university website must be accessible to individuals with disabilities.	774	3.78	4.00	4	.469

In general, slightly lower ratings were given by teaching staff than students in relation to the accessibility dimension (table 2), although both groups reported scores to the right of the scale for all items. The most highly rated items were ‘*university infrastructures must facilitate accessibility in students with disabilities*’, ‘*classroom conditions must favour accessibility in people with disabilities*’ and ‘*the university website must be accessible to people with disabilities*’ ($M=3.79$, $SD=.497$; $M=3.79$, $SD=.477$; $M=3.79$, $SD=.489$, respectively).

Teachers also strongly agree with the items ‘*university infrastructure must facilitate accessibility in students with disabilities*’ ($M=3.78$, $SD=.491$) and ‘*classroom furniture must be accessible to students with disabilities*’ ($M=3.77$, $SD=.505$). Lowest agreement, although still to the right of the scale, corresponded to the item ‘*infrastructure at my university building should facilitate accessibility in students with disabilities*’ ($M=3.73$, $SD=.577$).

Table 2. Teacher perceptions of accessibility

Items	N	M	Md	Mo	SD
University infrastructures must facilitate accessibility in students with disabilities.	433	3.79	4.00	4	.497
Infrastructure of my university building must facilitate accessibility in students with disabilities.	432	3.73	4.00	4	.577
Infrastructures of the services provided within the university community must facilitate accessibility in students with disabilities.	432	3.78	4.00	4	.491
Classroom furniture must be accessible to students with disabilities.	433	3.77	4.00	4	.505
Classroom conditions must favour accessibility for individuals with disabilities.	431	3.79	4.00	4	.477
The university website must be accessible to individuals with disabilities.	429	3.79	4.00	4	.489

Differences between student perceptions of the accessibility dimension according to knowledge branch

In order to examine potential differences in student ratings of accessibility items as a function of knowledge branch, the Kruskal Wallis K-test was calculated for independent samples. Chi-square outcomes (table 3) led to acceptance of the null hypothesis (H_0) for the item ‘*the university website must be accessible to people with disabilities*’ ($\chi^2=9.127$, $p=.058$) and rejection of the null hypothesis (H_0) for the other five items analysed (‘*university infrastructure must facilitate accessibility in*

students with disabilities’ [$\chi^2=11.15$, $p=.025$], ‘*infrastructure at my university building must facilitate accessibility in students with disabilities*’ [$\chi^2=22.871$, $p<.001$], ‘*infrastructure of services available to the university community must facilitate accessibility in students with disabilities*’ [$\chi^2=26.981$, $p<.001$], ‘*classroom furniture must be accessible to students with disabilities*’ [$\chi^2=14.804$, $p=.005$] and ‘*classroom conditions must favour accessibility in people with disabilities*’ [$\chi^2=21.615$, $p<.001$]. This suggests that statistically significant differences exist according to knowledge branch.

Table 3. Comparison of student accessibility assessments as a function of knowledge branch. Kruskal-Wallis H-test

Items	Branch	n	Average Range	X ²	df	p
University infrastructures must facilitate accessibility in students with disabilities.	LSS	283	286.96	11.157	4	.025
	AH	77	280.69			
	EA	40	297.15			
	S	39	240.35			
	HS	117	262.94			
Infrastructure of my university building must facilitate accessibility in students with disabilities.	LSS	262	293.48	22.871	4	.000
	AH	77	272.25			
	EA	40	295.40			
	S	39	223.92			
	HS	118	259.08			
Infrastructures of the services provided within the university community must facilitate accessibility in students with disabilities.	LSS	283	295	26.981	4	.000
	AH	77	273.55			
	EA	40	276.03			
	S	39	210.86			
	HS	118	265.42			
Classroom furniture must be accessible to students with disabilities	LSS	283	292.02	14.804	4	.005
	AH	77	274.72			
	EA	40	275.39			
	S	39	238.05			
	HS	118	265.33			
Classroom conditions must favour accessibility for people with disabilities	LSS	283	295.48	21.615	4	.000
	AH	77	269.32			
	EA	40	274.53			
	S	38	241.28			
	HS	118	257.10			
The university website must be accessible to people with disabilities	LSS	263	285.99	9.127	4	.058
	AH	77	272.58			
	EA	40	306.50			
	S	38	244.24			
	HS	118	265.93			

Note: Knowledge branches are abbreviated as follows: AH: Arts and Humanities; S: Sciences; HS: Health Sciences; LSS: Law and Social Sciences; EA: Engineering and Architecture.

In order to conduct analysis according to knowledge branch, the Mann-Whitney U statistic was calculated for two independent samples. Results presented in Table 4 reveal statistically significant differences in ratings pertaining to 'infrastructure of the services available to the university community must facilitate accessibility in students with disabilities' between students in Law and Social Sciences and those in Sciences (p=.007) and Health Sciences (p=.033), and between students undertaking Engineering and Architecture, and Sciences (p=.022). With higher scores pertaining to Law and Social Sciences students and Engineering and Architecture students, respectively. Statistically significant differences also emerged for the item 'infrastructure at my university building must facilitate accessibility

in students with disabilities' between students in Law and Social Sciences and those in Sciences (p<.001) and Health Sciences (p=.001), with a higher average rank emerging in the case of the former. Similar differences were found between Arts and Humanities students and those undertaking Sciences (p=.041), and between Engineering and Architecture students and those in Sciences (p<.001), with a higher rank emerging in the case of the former in both cases.

Significant differences were also observed regarding the item 'infrastructure of services available to the university community must facilitate accessibility in students with disabilities' between Law and Social Sciences students and those undertaking Sciences (p<.001) and Health Sciences (p=.003), with a

higher average range found in the case of the former. Similar differences emerged between Sciences students and those undertaking Arts and Humanities ($p=.010$), Engineering and Architecture students ($p=.022$), and Health Sciences students ($p=.017$), with a lower average rank being found for Sciences students in all three cases. Significant differences also emerged with regards to the item ‘classroom furniture must be accessible to students with disabilities’ between Law and Social Sciences students and those undertaking Sciences

($p<.001$) and Health Sciences ($p=.007$), with a higher average rank for Law and Social Sciences students. Finally, statistically significant differences emerged for the item ‘classroom conditions must favour accessibility in people with disabilities’ between Law and Social Sciences and Arts and Humanities students ($p=.012$), Science students ($p<.001$) and Health Sciences students ($p<.001$), with the average rank being higher for Law and Social Sciences students in all three comparisons.

Table 4. Differences between students according to knowledge branch. Man-Whitney U test

Items	Branch	n	Range	U	Z	p
University infrastructures must facilitate accessibility in students with disabilities.	LSS	283	164.78	4591.500	-2.708	.007
	S	39	137.7			
	LSS	283	205.55	15127.000	-2.136	.033
	HS	117	188.29			
	EA	40	44.05	618.000	-2.282	.022
	S	39	35.85			
Infrastructure of my university building must facilitate accessibility in students with disabilities.	LSS	282	165.90	4117.000	-4.270	.000
	S	39	125.56			
	LSS	282	207.78	14584.000	-3.215	.001
	HS	118	183.09			
	AH	77	61.86	1242.500	-2.039	.041
	S	39	51.86			
EA	40	45.05	578.000	-2.726	.000	
S	39	34.82				
Infrastructures of the services provided within the university community must facilitate accessibility in students with disabilities.	LSS	283	167.47	3828.000	-5.163	.000
	S	39	118.15			
	LSS	283	207.46	14808.000	-2.924	.003
	HS	118	185.50			
	AH	77	62.85	1166.500	-2.578	.010
	S	39	49.91			
EA	40	44.59	596.500	-2.267	.022	
S	39	35.29				
Classroom furniture must be accessible to students with disabilities	S	39	67.50	1852.500	-2.392	.017
	HS	118	82.80			
	LSS	283	165.27	4453.000	-3.537	.000
	S	39	134.18			
	LSS	283	206.64	15100.000	-2.683	.007
	HS	118	187.47			
Classroom conditions must favour accessibility for people with disabilities	LSS	283	184.14	9864.500	-2.514	.012
	AH	77	167.11			
	LSS	283	164.66	4340.000	-3.772	.000
	S	38	133.71			
	LSS	283	209.16	14388.000	-3.954	.000
	HS	118	181.43			
The university website must be accessible to people with disabilities	LSS	283	163.84	4573.000	-2.200	.028
	C	38	139.84			
	EA	40	43.70	592.000	-2.394	.017
	S	38	35.08			

Note: Knowledge branches are abbreviated as follows: AH: Arts and Humanities; S: Sciences; HS: Health Sciences; LSS: Law and Social Sciences; EA: Engineering and Architecture.

Differences between teaching staff perceptions of the accessibility dimension according to knowledge branch

Estimation of the Chi-square statistic (table 5) via the Kruskal-Wallis test reveals the

existence of statistically significant differences pertaining to the item ‘*university infrastructure must facilitate accessibility in students with disabilities*’ ($\chi^2=9.700$, $p=.046$).

Table 5. Comparison of teaching staff accessibility assessments according to knowledge branch. Kruskal-Wallis H-test

Items	Branch	n	Average Range	X ²	df	p
University infrastructures must facilitate accessibility in students with disabilities.	LSS	140	231.30	9.700	4	.046
	AH	81	218.59			
	EA	55	215.32			
	S	86	197.01			
	HS	90	211.41			
Infrastructure of my university building must facilitate accessibility in students with disabilities.	LSS	140	223.97	7.914	4	.095
	AH	61	232.40			
	EA	54	204.32			
	S	87	197.03			
	HS	89	217.85			
Infrastructures of the services provided within the university community must facilitate accessibility in students with disabilities.	LSS	138	223.38	4.703	4	.319
	AH	61	226.07			
	ES	54	211.00			
	S	87	201.07			
	HS	91	215.29			
Classroom furniture must be accessible to students with disabilities	LSS	139	221.25	4.845	4	.304
	AH	61	224.51			
	EA	54	205.04			
	S	87	202.45			
	HS	91	224.11			
Classroom conditions must favour accessibility for people with disabilities	LSS	138	219.04	3.743	4	.442
	AH	61	221.06			
	EA	54	209.39			
	S	87	201.93			
	HS	90	223.09			
The university website must be accessible to people with disabilities	LSS	138	217.89	3.543	4	.471
	AH	61	222.69			
	EA	54	216.11			
	S	85	199.65			
	HS	90	216.81			

Note: Knowledge branches are abbreviated as follows: AH: Arts and Humanities; S: Sciences; HS: Health Sciences; LSS: Law and Social Sciences; EA: Engineering and Architecture.

Identified differences, as indicated by Mann Whitney U outcomes (table 6) emerged between teachers in the field of Law and Social Sciences and Sciences, with a higher average

rank being found for Law and Social Sciences staff who more highly rated the item ‘*university infrastructure must facilitate accessibility in students with disabilities*’.

Table 6. Differences between teaching staff ratings according to knowledge branch. Mann-Whitney U test

Items	Branch	n	Range	U	Z	p
University infrastructures must facilitate accessibility in students with disabilities.	LSS	140	120.34	5062.000	-3.094	.002
	S	86	102.36			

Note: Knowledge branches are abbreviated as follows: AH: Arts and Humanities; S: Sciences; HS: Health Sciences; LSS: Law and Social Sciences; EA: Engineering and Architecture

Differences in accessibility ratings between students and teaching staff

With regards to the analysis carried out of potential statistically significant differences in accessibility ratings between students and teaching staff (table 7), outcomes led to acceptance of the null hypothesis (H₀) for all

items except one. Specifically, statistically significant differences were found between students and teaching staff in the item ‘classroom furniture must be accessible to students with disabilities’ (p<.001), with students obtaining a higher average rank. For all remaining comparisons, differences were not statistically significant.

Table 7. Differences between students and teachers in accessibility perceptions. Mann-Whitney U test

Items	Group	N	Range	U	z	p
University infrastructures must facilitate accessibility in students with disabilities.	Students	777	605.58	168157.000	-.017	.987
	Teaching staff	433	605.35			
Infrastructure of my university building must facilitate accessibility in students with disabilities.	Students	777	612.03	162372.000	-1.344	.179
	Teaching staff	432	592.36			
Infrastructures of the services provided within the university community must facilitate accessibility in students with disabilities.	Students	777	606.78	165674.000	-.549	.583
	Teaching staff	432	600.00			
Classroom furniture must be accessible to students with disabilities.	Students	777	616.63	159575.000	-2.289	.022
	Teaching staff	433	585.53			
Classroom conditions must favour accessibility for people with disabilities.	Students	777	613.36	160557.500	-1.847	.065
	Teaching staff	431	588.52			
The university website must be accessible to people with disabilities.	Students	774	599.19	163847.500	-.545	.586
	Teaching staff	429	607.07			

Discussion

The main aim of the present study was to record university student and teaching staff evaluations of a set of items related with accessibility at their university. From this, it was examined whether evaluations significantly differed between students and teaching staff and were perceptions within each group differed as a function of knowledge branch.

To this end, relative strong agreement was found in university students that university

infrastructures, university building infrastructures, available services, furniture, classroom conditions and the web portal must favour the inclusion of individuals with disabilities. The same was true of teaching staff, although their ratings were slightly lower for all items. This leads us to believe that both groups consider aspects related to accessibility as a fundamental issue when it comes to favouring the inclusion of students with disabilities in the university. Such issues have also been highlighted by authors such as Casasola et al. (2016), Lledó et al. (2020),

Mayo et al. (2019) and Vilches and Garcés (2021).

In general, differences were also found between student ratings of the different aspects of accessibility as a function of knowledge branch. Specifically, Social and Legal Sciences students reported different accessibility perceptions relative to their peers from other knowledge branches. With regards to teaching staff, those working in the branch of Social and Legal Sciences considered that university infrastructures should facilitate accessibility in students with disabilities to a greater extent than those of Sciences.

Likewise, when comparing evaluations given by students and teaching staff, no significant differences were found for most analysed items. However, differences were found in perceptions pertaining to whether classroom furniture should favour the inclusion of students with disabilities, with students being more in favour of this aspect.

As mentioned earlier in the present article, accessibility is a fundamental element of the inclusion of students with disabilities in the university context. According to the most current paradigm, universal accessibility is understood as a "... right, more precisely, as a necessary condition for the full exercise of rights, which has as a logical correlate the consideration of the lack of accessibility of environments, products and services available to the public as discrimination against people with disabilities (Tejada, 2021, p.109).

In order to improve inclusion in the university context, laws alone are not enough. Instead, it is necessary to make structural modifications and adjustments that guarantee universal accessibility (Bagnato, 2017). In this sense, "it is necessary to adapt and readjust higher education institutions to make them fully accessible, taking universal design as a reference (Cotán, 2020, p.3).

Multiple barriers to presence, participation and achievement can be found in university contexts and need to be overcome through systemic plans that are subject to constant review processes, as progress cannot be limited

to isolated innovations (Sandoval et al., 2019). Likewise, the role of teachers is fundamental. In this sense, it must be considered that "university teachers can contribute by implementing their own adjustments and support; for this, they certainly need to be trained in inclusion and disability, but also in more specific issues, such as pedagogical barriers, strategies to overcome them, collaborative work with colleagues and students, and the services available in the institution" (Pérez-Castro, 2021, p.153).

Education is a right that must be guaranteed for all people, regardless of their personal characteristics and conditions. This implies putting structural reform into place and implementing measures that promote equal opportunities and equity. The university has to face this challenge and guarantee, amongst other things, that the environments in which students are found are accessible.

Finally, some of the main limitations of the present study should be noted. Firstly, the study used a sample of university students and, therefore, outcomes cannot be extrapolated to other educational levels. Secondly, the samples of students and teachers are not very large. It is, therefore, desirable to increase the number of participants from both groups. Further, potential student biases should be considered as information was collected partly in-person and partly online. Finally, it should be highlighted that only one university participated making it desirable to expand the research and include samples from different universities. In future research, the instrument used here could be complemented with interviews with students and teachers in order to obtain more in-depth information on this topic and continue advancing the field by conducting studies that address key aspects of inclusion.

Funding

The present study forms part of an investigation (Ref. 016-CU001) financed through the Vice-rectorate for Students, Culture and Social Responsibility of the

University of Santiago de Compostela. It sits within the framework of the Secretary of State, Education, Professional Training and University, and is in line with the Classroom Support Program: Natural Support as a Tool for Inclusion (CEI15-30.VII).

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Revista ELectrónica de Investigación y EValuación Educativa
E-Journal of Educational Research, Assessment and Evaluation

[ISSN: 1134-4032]



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